

200311615-1

10/678,427

REMARKS

This is a full and timely response to the non-final Official Action mailed September 14, 2006. Reconsideration of the application in light of the above amendments and the following remarks is respectfully requested.

Claim Status:

Claims 28-40 were withdrawn from consideration under the imposition of a previous Restriction Requirement. To expedite the prosecution of the present application, claims 28-40 are cancelled herein without prejudice or disclaimer. The withdrawn claims are cancelled without prejudice or disclaimer. Applicant reserves the right to file any number of continuation or divisional applications to the withdrawn claims or to any other subject matter described in the present application.

By the forgoing amendment, the specification and various claims have been amended. Additionally, new claims 50-55 have been added. Thus, claims 1-27 and 41-55 are currently pending for further action.

Claim Objection:

The recent Office Action objected to claims 36-40. This objection is rendered moot by the cancellation herein of the affected claims.

35 U.S.C. § 112, First Paragraph:

The recent Office Action argues that claims 1-6, 9-16, 19, 20, 41-43 and 45-49 are not enabled to one of skill in the art and are, therefore, in violation of 35 U.S.C. § 112, first paragraph. Applicant respectfully disagrees.

200311615-1

10/678,427

Initially, Applicant notes that these claims are also held in the Office Action as anticipated by the prior art of record. It is logically impossible for these claims to be both anticipated by the prior art and not enabled to one of skill in the art. This highlights the underlying fact that the rejection made here under § 112 is entirely without merit.

According to the Office Action, "the specification, while being enabling for a variable insulated system for a fuel cell, does not reasonably provide enablement for a variably insulated system for any heat generating core." (Action of 9/14/06, p. 4). This is clearly incorrect.

As conceded in the Office Action, the specification enables the claimed subject matter for a variety of heat generating cores including fuel cells. This is all that is required. *See In re Scarbrough*, 500 F.2d 560, 182 USPQ 298 (CCPA 1974); *In re Brandstadter*, 484 F.2d 1395, 179 USPQ 286 (CCPA 1973).

Moreover, the Office Action has not provided any evidence or reasoning that would indicate that one of skill in the art would have any trouble using the principles and claimed subject matter of the instant application in any system with a heat generating core. The burden is initially upon the examiner to establish a reasonable basis for questioning the sufficiency of the disclosure. *In re Strahilevitz*, 668 F. 2d 1229, 212 USPQ 561 (CCPA 1982).

For any and all of these reasons, the rejection under § 112, first paragraph, is without merit and should be reconsidered and withdrawn.

Best Available Copy

Best Available Copy

200311615-1

10/678,427

Prior Art:

Claims 1, 2, 5, 7, 9, 11, 12, 15, 17, 19, 41, 45 and 48 were rejected as anticipated under 35 U.S.C. § 102(b) by Japanese Pub. 60-041769 to Funakawa et al. ("Funakawa"). For at least the following reasons, this rejection is respectfully traversed.

Claim 1 now recites:

A variably insulated system, comprising:  
a heat generating core;  
a heat sink; and  
a heat responsive coupling member *configured to selectively cause relative movement of said heat generating core or said heat sink to provide contact between said heat generating core and said heat sink at a predetermined temperature* of said heat generating core such that heat from said heat generating core is dissipated by said heat sink when said heat generating core and said heat sink are in contact.  
(Emphasis added).

Claim 11 recites:

An electrochemical system, comprising:  
an electrochemical core;  
a heat sink; and  
a heat responsive coupling member *configured to selectively cause relative movement of said electrochemical core or said heat sink to provide contact between said electrochemical core and said heat sink at a predetermined temperature* of said electrochemical core such that heat from said electrochemical core is dissipated by said heat sink when said electrochemical core and said heat sink are in contact.  
(Emphasis added).

Claim 41 recites:

A variably insulated system, comprising:  
a heat generating core;  
a means for dissipating heat from said heat generating core; and  
a means for *selectively causing relative movement between said heat generating core and means for dissipating heat to provide contact between said means for dissipating heat and said heat generating core at a predetermined temperature* of said heat generating core such that heat from said heat generating core is dissipated by said means for dissipating heat when said heat generating core and said means for dissipating heat are in contact.  
(Emphasis added).

Best Available Copy

200311615-1

10/678,427

Support for the amendments to these claims can be found in Applicant's originally-filed specification at, for example, paragraph 0022.

In contrast, Funakawa fails to teach or suggest the claimed heat responsive coupling for selectively causing relative movement between a heat generating core and heat sink to provide contact between those components at a predetermined temperature so that heat can be released from the system. Funakawa instead teaches bimetals (15) that expand to provide a thermal bridge between a fuel cell body (1) and a radiator plate (11). The relevant components of Funakawa are not moved relative to each other in any way similar to the effect achieved by the heat responsive coupling member or means in Applicant's claims.

Therefore, Funakawa fails to teach or suggest the claimed "heat responsive coupling member configured to selectively cause relative movement of said electrochemical core or said heat sink to provide contact between said electrochemical core and said heat sink at a predetermined temperature." "A claim is anticipated [under 35 U.S.C. § 102] only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987) (emphasis added). See M.P.E.P. § 2131. For at least these reasons, the rejection based on Funkawa under § 102(b) should be reconsidered and withdrawn.

Claim 5 recites "wherein said coupling member comprises a bimetallic strip." Claim 15 recites similar subject matter. Claim 48 also recites that "said means for causing relative movement comprise a bimetallic strip."

As noted above, Funakawa teaches using bimetals. However, Funakawa does not teach or suggest using the action of a bimetallic strip to cause relative movement of a heat generating core or a heat sink to provide contact between the heat generating core and the

200311815-1

10/678,427

heat sink at a predetermined temperature as claimed. For at least this additional reason, the rejection of claims 5, 15 and 48 should be reconsidered and withdrawn.

Claim 19 now recites "an evacuated space between said heat generating core and said heat sink that increases the thermal insulation of said heat generating core when said heat generating core and said heat sink are not in contact." See Applicant's originally-filed specification at, for example, paragraph 0021.

In contrast, Funakawa does not teach or suggest this subject matter. For at least this additional reason, the rejection of claim 19 should be reconsidered and withdrawn.

Claim 45 now recites "means for biasing configured to provide a bias that physically separates said heat generating core and said means for dissipating heat, wherein said means for selectively causing relative movement overcomes said bias to bring said heat generating core and said means for dissipating heat into contact at said predetermined temperature." See Applicant's originally-filed specification at, for example, paragraph 0018.

In contrast, Funakawa does not teach or suggest this subject matter. For at least this additional reason, the rejection of claim 45 should be reconsidered and withdrawn.

Claims 3, 4, 13, 14 and 47 were rejected under 35 U.S.C. § 103(a) over the combined teachings of Funakawa and U.S. Patent App. Pub. No. 2004/0067398 to Watanabe ("Watanabe"). This rejection is respectfully traversed for at least the same reasons given above as to the inapplicability of Funakawa and for the following additional reasons.

Claim 3 recites "wherein said heat responsive coupling member comprises a shape memory alloy." Neither Funakawa nor Watanabe teach or suggest a shape memory alloy used as a heat responsive coupling member that is configured to cause relative movement between a heat generating core and a heat sink at a predetermined temperature to bring the two into

200311615-1

10/678,427

physical and thermal contact. For at least this additional reason, the rejection of claim 3 should be reconsidered and withdrawn. The same applies to claim 13.

Claim 4 recites "wherein said heat responsive coupling member further comprises a spring coupled to said shape memory alloy." In contrast, neither Funakawa nor Watanabe teach or suggest this subject matter. Watanabe teaches a spring "made [from] the shape memory alloy." (Watanabe, paragraph 0029). Thus, Watanabe teaches a spring made from a shape memory alloy, not a spring coupled to a shape memory alloy component as recited in claim 4. For at least this additional reason, the rejection of claim 4 should be reconsidered and withdrawn.

Claim 14 recites "a biasing member configured to provide a bias physically separating said heat generating core and said heat sink, wherein said heat responsive coupling member overcomes said bias to bring said heat generating core and said heat sink into contact." See Applicant's originally-filed specification at, for example, paragraph 0018.

In contrast, neither Funakawa nor Watanabe teach or suggest this subject matter. For at least this additional reason, the rejection of claim 14 should be reconsidered and withdrawn. The same applies to claim 47.

Claims, 6, 16 and 49 were rejected under 35 U.S.C. § 103(a) over the combined teachings of Funakawa and U.S. Patent App. Pub. No. 2003/0072984 to Saloka et al. ("Saloka"). This rejection is respectfully traversed for at least the same reasons given above as to the inapplicability of Funakawa and for the following additional reasons.

Claim 6 recites "wherein said coupling member comprises a machine actuated member and a sensor." In contrast, neither Funakawa nor Saloka teach or suggest a machine actuated member used as a heat responsive coupling member that is configured to cause

200311615-1

10/678,427

relative movement between a heat generating core and a heat sink at a predetermined temperature to bring the two into physical and thermal contact. For at least this additional reason, the rejection of claim 6 should be reconsidered and withdrawn. The same applies to claims 16 and 49.

Claims 10, 20 and 46 were rejected under 35 U.S.C. § 103(a) over the combined teachings of Funakawa and U.S. Patent No. 6,634,890 to Peterson et al. ("Peterson"). This rejection is respectfully traversed for at least the same reasons given above as to the inapplicability of Funakawa.

Claims 42 and 43 were rejected under 35 U.S.C. § 103(a) over the combined teachings of Funakawa and U.S. Patent App. Pub. No. 2001/0023591 to Maeda et al. ("Maeda"). This rejection is respectfully traversed for at least the same reasons given above as to the inapplicability of Funakawa and for the following additional reasons.

Claims 42 and 43 respectively recite "means for cooling said means for dissipating heat" and "wherein said means for cooling comprise a fan that provides a varying air flow over said means for dissipating heat in response to a varying need to remove heat from said means for dissipating heat." See Applicant's originally-filed specification at, for example, paragraph 0032.

In contrast, neither Funakawa nor Maeda teach or suggest this subject matter. For at least this additional reason, the rejection of claims 42 and 42 should be reconsidered and withdrawn.

Best Available Copy

200311615-1

10/678,427

Claims 8, 18, 21, 22, 24, 26 and 44 were rejected under 35 U.S.C. § 103(a) over the combined teachings of Funakawa and U.S. Patent No. 5,759,278 to Gillett et al. ("Gillett"). This rejection is respectfully traversed for at least the same reasons given above as to the inapplicability of Funakawa.

Claim 23 was rejected under 35 U.S.C. § 103(a) over the combined teachings of Funakawa, Gillett and Watanabe. This rejection is respectfully traversed for at least the same reasons given above as to the inapplicability of Funakawa, Gillett and Watanabe.

Claim 25 was rejected under 35 U.S.C. § 103(a) over the combined teachings of Funakawa, Gillett and Saloka. This rejection is respectfully traversed for at least the same reasons given above as to the inapplicability of Funakawa, Gillett and Saloka.

Claims 26 and 27 was rejected under 35 U.S.C. § 103(a) over the combined teachings of Funakawa, Gillett and Peterson. This rejection is respectfully traversed for at least the same reasons given above as to the inapplicability of Funakawa, Gillett and Peterson.

Additionally, claim 27 now recites "said shape memory alloy is formed as a wire which is strung between a plurality of posts on opposing members corresponding respectively to said fuel cell and said heat sink." See Applicant's originally-filed specification at, for example, Fig. 2 and paragraph 0024.

In contrast, none of Funakawa, Gillett or Peterson teach or suggest this subject matter. For at least this additional reason, the rejection of claim 27 should be reconsidered and withdrawn.

Best Available Copy



200311615-1

10/678,427

RECEIVED  
CENTRAL FAX CENTER  
DEC 13 2006

Conclusion:

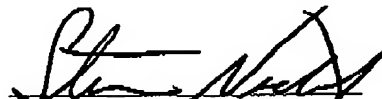
The newly added claims are thought to be patentable over the prior art of record for at least the same reasons given above with respect to the original independent claims.

Therefore, examination and allowance of the newly added claims is respectfully requested.

For the foregoing reasons, the present application is thought to be clearly in condition for allowance. Accordingly, favorable reconsideration of the application in light of these remarks is courteously solicited. If the Examiner has any comments or suggestions which could place this application in even better form, the Examiner is requested to telephone the undersigned attorney at the number listed below.

Respectfully submitted,

DATE: December 13, 2006

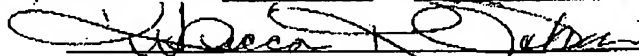
  
Steven L. Nichols  
Registration No. 40,326

Steven L. Nichols, Esq.  
Managing Partner, Utah Office  
Rader Fishman & Grauer PLLC  
River Park Corporate Center One  
10653 S. River Front Parkway, Suite 150  
South Jordan, Utah 84095

(801) 572-8066  
(801) 572-7666 (fax)

**CERTIFICATE OF TRANSMISSION**

I hereby certify that this correspondence is being transmitted to the Patent and Trademark Office facsimile number 571-273-8300 on December 13, 2006. Number of Pages: 22

  
Rebecca R. Schow

Best Available Copy